

ABSTRACT OF THE INVENTION

A spatial diversity receiver and method for determining a multichannel combined symbol timing marker that identifies an energy concentration for a combination of channel delay spreads in order to reduce the complexity of equalization. The receiver includes two or more receiver chains having spatially diverse antennas; a multichannel combined timer; and a multichannel combined equalizer for receiving wireless signals through two or more signal channels. The multichannel combined timer combines energies corresponding to the channel impulse response coefficients for all the channels for determining a series of multichannel combined metrics having associated index cursors, and then determines the multichannel combined symbol timing marker from the index cursor for the largest of the metrics. The symbol timing marker synchronizes the received symbols issued to the equalizer jointly to the energy concentration for the delay spreads combined for all the channels.

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